16809600 La Sa Fua River near Umatac, Guam

LOCATION.--Lat 13°18'25.0", long -144°39'51.9" referenced to North American Datum of 1983, on left bank 0.6 mi north of Sanchez school in Umatac and 0.8 mi upstream from mouth.

DRAINAGE AREA.--1.06 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1953 to July 1960, October 1976 to April 1984, June 2000 to current year. Prior to October 1976, published as Fouha River near Umatac. From June 2000 to September 2005, unpublished records are in the files of the U.S. Geological Survey.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 120 ft above mean sea level (from topographic map). Prior to June 2000, at datum 10.00 ft higher.

REMARKS.--Records computed by Marcael Jamison. Records fair except for estimated period which are poor.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--20 years (water years 1954-59, 1977-83, 2001-07) 4.53 ft^3/s (3,280 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,140 ft^3/s, July 5, 2002, gage height, 17.73 ft, from rating curve extended above 320 ft^3/s on basis of slope-area measurements at gage heights 17.73 ft; minimum 0.12 ft^3/s, June 13, 1979, during short regulation of flow at diversion upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 08	1050	*1,170	*16.45
No other peak greater than base discharge			

Minimum discharge, 0.22 ft^3/s, Jul 2, 3, gage height, 10.23 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4.6	3.1	1.7	1.7	0.87	0.56	0.57	0.49	0.44	0.27	0.52	7.1
2	21	2.9	1.6	1.4	0.83	0.54	0.59	0.51	0.42	0.25	3.2	5.6
3	11	2.7	1.5	1.6	0.80	0.52	0.69	0.69	0.43	0.25	1.4	3.1
4	5.6	2.5	1.4	1.4	0.78	0.73	0.57	0.51	0.46	0.70	3.4	2.4
5	4.7	2.4	1.5	1.5	0.76	1.2	0.56	0.41	0.35	0.55	13	2.1
6	25	2.3	1.4	1.3	0.76	10	0.54	0.41	0.33	0.40	3.3	1.8
7	71	2.2	4.2	1.3	0.88	2.5	0.52	0.39	0.33	0.35	1.7	8.2
8	95	2.1	1.6	1.2	1.1	1.6	0.52	0.38	0.32	0.54	1.5	5.5
9	14	2.3	12	1.2	1.3	1.2	0.50	0.63	0.34	1.3	1.8	8.0
10	9.8	2.1	4.7	1.1	0.87	0.99	0.47	1.1	0.32	1.2	1.3	12
11	16	2.1	2.3	1.2	0.83	0.97	0.47	0.49	0.32	0.76	1.1	13
12	9.8	2.1	1.9	1.1	0.77	0.95	0.46	0.52	0.30	0.58	7.0	12
13	6.9	3.1	1.9	1.1	0.88	0.91	0.45	0.55	0.29	2.6	19	19
14	16	1.9	2.9	1.0	0.78	0.82	0.50	0.53	0.33	1.4	4.2	9.6
15	11	1.9	1.8	1.1	0.75	0.75	0.44	0.56	0.32	1.2	2.1	6.6
16	8.3	1.9	1.7	1.3	0.73	0.72	0.48	1.6	0.32	0.81	1.9	4.1
17	8.8	1.8	1.6	1.0	0.69	0.73	0.51	0.95	0.40	0.67	14	25
18	15	1.7	2.9	0.97	0.73	0.71	0.50	0.58	0.85	0.59	4.4	9.1
19	11	1.6	1.8	0.97	0.66	0.67	0.48	0.52	0.50	0.52	2.0	4.5
20	7.0	1.6	3.3	0.91	0.66	0.65	0.46	0.52	0.37	0.48	2.2	3.2
21	4.6	1.6	2.4	0.92	0.63	0.64	0.51	0.48	0.50	0.48	31	e7.2
22	19	1.5	2.0	0.93	0.61	0.62	0.44	0.45	0.40	0.51	13	e6.3
23	6.2	1.5	1.9	0.87	0.60	0.65	0.45	0.56	0.36	0.49	13	e1.9
24	9.6	1.4	1.7	0.97	0.61	0.60	0.46	0.69	0.35	0.46	5.9	e4.3
25	16	1.5	1.6	0.87	0.60	0.60	0.42	0.66	0.38	0.43	5.8	e2.9
26	8.2	4.4	1.5	1.0	0.59	0.59	0.45	1.1	0.32	0.70	8.9	e13
27	7.0	7.5	1.4	1.1	0.58	0.57	0.47	0.74	0.28	0.47	4.8	e29
28	15	2.1	1.5	0.90	0.58	0.57	0.50	0.54	0.29	0.59	3.0	e11
29	6.6	2.7	1.4	1.1	---	0.56	0.41	0.60	0.27	0.52	6.2	e6.6
30	4.5	1.9	1.3	1.1	---	0.56	0.41	0.48	0.26	1.8	4.2	e6.8
31	3.6	---	1.3	1.0	---	0.56	---	0.51	---	0.64	3.4	---
Total	471.8	70.4	71.7	35.11	21.23	34.24	14.80	19.15	11.15	22.51	188.22	250.9
Mean	15.2	2.35	2.31	1.13	0.76	1.10	0.49	0.62	0.37	0.73	6.07	8.36
Max	95	7.5	12	1.7	1.3	10	0.69	1.6	0.85	2.6	31	29
Min	3.6	1.4	1.3	0.87	0.58	0.52	0.41	0.38	0.26	0.25	0.52	1.8
Ac-ft	936	140	142	70	42	68	29	38	22	45	373	498

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8.62	7.49	3.66	2.22	1.97	0.93	0.70	1.11	2.72	5.09	8.73	10.5
Max	25.2	21.3	10.0	7.24	10.5	1.90	1.36	9.01	24.1	14.5	18.8	22.9
(WY)	(1954)	(1958)	(2003)	(2002)	(1980)	(2002)	(1981)	(1980)	(2004)	(2002)	(2004)	(1980)
Min	2.18	2.35	1.42	0.87	0.67	0.46	0.41	0.35	0.31	0.70	1.02	3.58
(WY)	(1977)	(2007)	(1958)	(1978)	(1983)	(1978)	(1979)	(1978)	(1979)	(1953)	(1977)	(2001)

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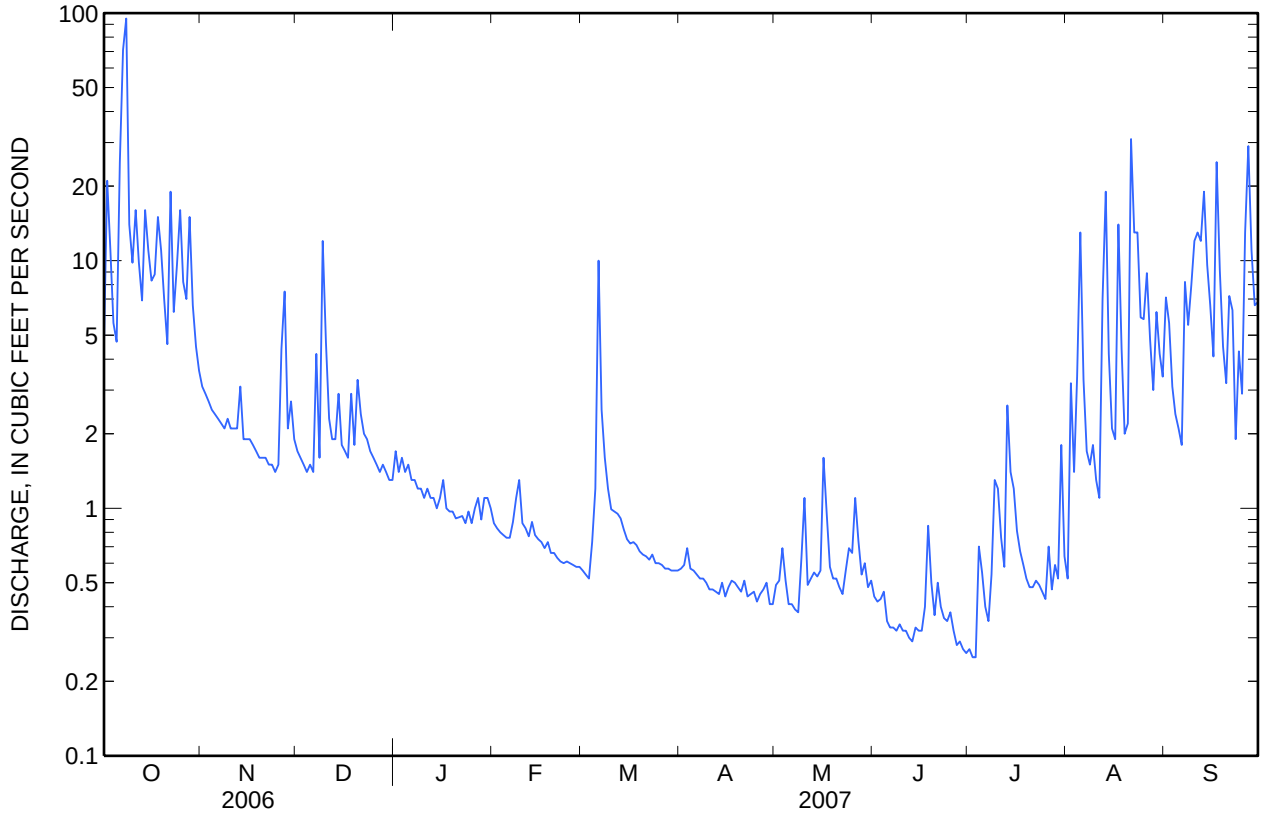
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1953 - 2007	
Annual total	1,715.00		1,211.21			
Annual mean	4.70		3.32		4.53	
Highest annual mean					8.64	1980
Lowest annual mean					2.15	1977
Highest daily mean	95	Oct 8	95	Oct 8	403	Oct 15, 1953
Lowest daily mean	0.38	Apr 29	0.25	Jul 2	0.18	May 31, 2004
Annual seven-day minimum	0.39	Apr 29	0.27	Jun 27	0.24	May 29, 2004
Maximum peak flow					1,970	Jul 5, 2002
Maximum peak stage					17.23	Jul 5, 2002
Instantaneous low flow					0.49	Apr 11, 2003
Annual runoff (ac-ft)	3,400		2,400		3,280	
10 percent exceeds	11		8.8		9.2	
50 percent exceeds	1.7		1.1		1.6	
90 percent exceeds	0.50		0.43		0.48	



WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2005 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: October 2005 to current year.

REMARKS.--Records fair. For water year 2007, the sediment samples were collected up to 519 ft^3/s and the peak of the year was 1,170 ft^3/s. Because there is no basis for estimating concentration at flows higher than 519 ft^3/s, daily values of concentration and load were not estimated for October 7 and 8.

EXTREMES FOR PERIOD OF RECORD.--
SUSPENDED SEDIMENT CONCENTRATION: Maximum daily mean observed, 2,270 mg/L, August 18, 2007; minimum, 0.0 mg/L on many days.
SUSPENDED SEDIMENT DISCHARGE: maximum daily mean observed, 162 tons, August 21, 2007; minimum, 0.00 tons on many days.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED SEDIMENT CONCENTRATION: Maximum daily mean observed, 2,270 mg/L, August 18; minimum, 0.0 mg/L on many days.
SUSPENDED SEDIMENT DISCHARGE: Maximum daily mean observed, 162 tons, August 21; minimum, 0.00 tons on many days.

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SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
[e, estimated]

Day	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)
	October		November		December		January		February		March	
1	e79	e0.91	3	0.03	6	0.03	9	0.04	22	0.05	2	0.00
2	e341	e36	2	0.01	6	0.03	8	0.03	32	0.07	2	0.00
3	e148	e4.4	0.0	0.00	5	0.02	6	0.03	40	0.09	2	0.00
4	e80	e1.3	0.0	0.00	5	0.02	9	0.03	35	0.07	2	0.00
5	e61	e0.84	0.0	0.00	4	0.02	11	0.04	27	0.06	e11	e0.05
6	e327	e65	0.0	0.00	15	0.06	9	0.03	17	0.04	e157	e6.1
7	---	---	0.0	0.00	e74	e1.7	6	0.02	8	0.02	e87	e0.61
8	---	---	3	0.02	18	0.08	7	0.02	4	0.01	e44	e0.19
9	e211	e8.3	5	0.03	e257	e17	9	0.03	1	0.00	13	0.04
10	e125	e3.3	6	0.03	e65	e1.1	7	0.02	1	0.00	5	0.01
11	e239	e13	6	0.03	29	0.18	6	0.02	2	0.00	4	0.01
12	e146	e3.9	5	0.03	27	0.14	5	0.01	3	0.00	5	0.01
13	e90	e1.7	e3	e0.03	23	0.12	5	0.01	4	0.00	5	0.01
14	e223	e16	2	0.00	e19	e0.15	7	0.02	5	0.01	17	0.04
15	e153	e4.7	0.0	0.00	15	0.07	9	0.03	6	0.01	33	0.07
16	e116	e2.6	1	0.00	13	0.06	9	0.03	5	0.00	23	0.04
17	e96	e2.7	3	0.01	13	0.06	8	0.02	3	0.00	8	0.01
18	e211	e14	2	0.00	e15	e0.11	7	0.02	2	0.00	8	0.02
19	e94	e3.3	1	0.00	15	0.07	6	0.02	2	0.00	11	0.02
20	23	0.45	2	0.01	e15	e0.13	6	0.02	2	0.00	8	0.01
21	24	0.28	2	0.00	14	0.09	7	0.02	2	0.00	4	0.00
22	e227	e30	1	0.00	13	0.07	13	0.03	1	0.00	6	0.00
23	34	0.56	3	0.01	16	0.08	20	0.05	0.0	0.00	9	0.01
24	e116	e5.1	6	0.02	23	0.10	27	0.07	2	0.00	8	0.01
25	e205	e14	9	0.04	47	0.20	33	0.08	3	0.00	7	0.01
26	e30	e0.68	e51	e1.8	72	0.29	38	0.11	3	0.00	6	0.00
27	81	1.4	e102	e3.5	62	0.24	23	0.07	3	0.00	4	0.00
28	e424	e18	e11	e0.06	44	0.17	5	0.01	2	0.00	4	0.00
29	e79	e1.7	e4	e0.03	29	0.11	1	0.00	---	---	5	0.00
30	5	0.06	6	0.03	16	0.06	1	0.00	---	---	5	0.00
31	4	0.04	---	---	12	0.04	11	0.03	---	---	5	0.00
Total	---	---	---	5.72	---	22.60	---	0.96	---	0.43	---	7.27

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SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
[e, estimated]

Day	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)
	April		May		June		July		August		September	
1	4	0.00	6	0.00	5	0.00	4	0.00	5	0.00	18	0.33
2	4	0.00	9	0.01	5	0.00	6	0.00	e9	e0.08	12	0.18
3	3	0.00	11	0.02	5	0.00	5	0.00	e18	e0.06	5	0.05
4	2	0.00	9	0.01	5	0.00	3	0.00	e59	e0.54	4	0.03
5	2	0.00	6	0.00	6	0.00	3	0.00	e309	e32	4	0.02
6	2	0.00	5	0.00	3	0.00	2	0.00	e138	e1.3	4	0.02
7	2	0.00	5	0.00	2	0.00	3	0.00	e39	e0.19	e410	e29
8	1	0.00	6	0.00	2	0.00	4	0.00	18	0.07	e156	e2.7
9	2	0.00	7	0.01	3	0.00	4	0.01	16	0.08	e86	e1.8
10	2	0.00	8	0.02	3	0.00	4	0.01	19	0.07	e116	e31
11	2	0.00	8	0.01	3	0.00	5	0.00	24	0.07	e226	e13
12	2	0.00	7	0.00	2	0.00	6	0.00	e124	e21	e34	e1.1
13	2	0.00	6	0.00	3	0.00	e8	e0.06	e247	e27	e190	e17
14	2	0.00	6	0.00	4	0.00	e10	e0.04	e64	e0.78	e246	e6.6
15	3	0.00	7	0.01	3	0.00	7	0.02	e23	e0.14	e54	e1.1
16	3	0.00	12	0.06	2	0.00	5	0.00	e22	e0.11	e48	e0.51
17	4	0.00	17	0.04	3	0.00	12	0.02	e936	e87	e309	e102
18	4	0.00	13	0.02	4	0.00	19	0.03	e2,270	e27	e52	e1.4
19	3	0.00	8	0.01	3	0.00	16	0.02	e1,890	e10	e13	e0.18
20	2	0.00	7	0.00	2	0.00	10	0.01	e1,370	e8.1	9	0.08
21	2	0.00	6	0.00	2	0.00	10	0.01	e965	e162	e8	e0.16
22	2	0.00	7	0.00	2	0.00	12	0.02	e313	e10	e10	e0.16
23	2	0.00	8	0.01	2	0.00	14	0.02	e191	e6.7	e12	e0.06
24	2	0.00	8	0.01	2	0.00	16	0.02	e152	e2.4	e14	e0.16
25	2	0.00	8	0.01	2	0.00	13	0.02	e131	e2.0	e14	e0.11
26	1	0.00	9	0.02	2	0.00	9	0.02	e111	e2.6	e492	e17
27	1	0.00	9	0.02	2	0.00	10	0.01	e90	e1.2	e1,490	e117
28	1	0.00	8	0.01	2	0.00	11	0.02	e70	e0.57	e386	e12
29	3	0.00	7	0.01	2	0.00	12	0.02	e49	e0.80	e23	e0.42
30	4	0.00	6	0.00	2	0.00	e14	e0.07	30	0.35	e11	e0.12
31	---	---	6	0.00	---	---	9	0.02	23	0.21	---	---
Total	---	0.00	---	0.31	---	0.00	---	0.47	---	404.42	---	355.29